ment of beat-to-beat variation a simple and useful test for the evaluation of cardiac denervation in these patients.

Cardiorespiratory arrest is a common complication in this kind of patient as it is in the diabetic patients with autonomic neuropathy,[2] and some of the unexplained sudden deaths are likely to be related to the existence of functional abnormalities of the autonomic nervous system.

The function of the autonomic nervous system in other diseases is likely to be easily evaluated by the measurement of beat-to-beat variation. We have found very suggestive results in patients with the Guillain-Barré syndrome even though the number of cases studied to date is not large enough for statistical treatment.

J C FRISÓN
L SÁNCHEZ MASSA
A GARNACHO
V GIMENO

Intensive Care Unit and
Data Processing Centre,
Ciudad Sanitaria Francisco Franco,
Barcelona, Spain

[1] Neubauer, B, and Gundersen, H J C, *Journal of Neurology, Neurosurgery, and Psychiatry*, 1978, **41**, 417.
[2] Page, M M, and Watkins, P J, *Lancet*, 1978, **1**, 14.

Safety of piped medical gases and electromedical equipment

SIR,—I refer to Dr C S Ward's letter on the safety of piped medical gases (14 April, p 1019) and would like to offer the following comments to supplement his views.

The new British Standard for medical gas pipeline systems, terminal units hose assemblies, and connections to medical equipment was published in December 1978 (BS 5682). The terminal units Dr Ward refers to are the British Oxygen Company Mk 4 Units. These were in production before the issue of the British Standard, but it is understood that they are generally in compliance with its requirements. There are and will continue to be other outlets available which are to the BS 5682 requirements.

So far as I am aware, there has not been an accident with medical gases which has been attributable to the fixed portion of the systems —that is, that part of the system from the gas source to the terminal unit permanently installed in the building fabric. The BS requirements provide for a system that is inherently safe, when the components covered are installed in the manner demanded by Hospital Technical Memorandum No 22, in that they ensure the non-interchangeability of probe-terminal unit and give the additional convenience that the terminal units are now to be specified as having an individual isolation valve (preferably automatic) that will allow servicing without affecting the operation of other units. This feature is of significant importance in the operation of the "permit to work" system that is now the requirement for all work, from minor servicing to major modifications or additions, to any medical gas pipeline system. The isolating valves and other alterations to which Dr Ward refers are also aimed at the improvement of the system to enable localised servicing to be carried out without disruption of the supplies to other areas.

The question of communication of intention is one to which there is probably not a universal solution in regard to the proposals to upgrade any installation. However, with the introduction of a permit to work system, the medical officer or nurse in charge of the management of a unit must be made aware of any proposals before work can be put in hand. This is part of the permit to work system and requires that a signature be obtained from one or other to say that the MO or nurse is aware of the nature and the expected duration of the work. If any clinician is not satisfied he can obviously decline to give such a signature. This might in the immediate instance inconvenience and embarrass the engineer but would ensure that the proper consultation took place for future proposals.

T L TOMPKIN

Yorkshire Regional Health Authority,
Harrogate, North Yorks HG1 1DY

SIR,—I must take issue with Dr C S Ward in his letter (14 April, p 1019) concerning the safety of piped medical gases. It is the interface between hospital clinician and engineer referred to in the third paragraph that is the point on which I disagree.

Following the report on the Shewan incident,[1] hospitals in this region have been endeavouring to arrive at a workable arrangement regarding the division of responsibility between those who use equipment and those who service it. As Dr Ward states, the final responsibility for administering treatment rests with the doctor concerned. However, in busy theatres when the same anaesthetic machine is used repeatedly during a day it is not considered necessary to perform the "one hose and tug" tests to identify gas line connection to rotameters.

We have been advised by our defence organisation that a nominated doctor responsible for the equipment serviceability in our theatres would be unwise, leading to personal crucifixion in the event of an accident. I wonder whether Dr Ward implies the name "engineering liaison officer" for the member of staff who talks to the engineering department servicing the hospital medical equipment.

G A H HEANEY

Department of Anaesthesia,
Good Hope General Hospital,
Sutton Coldfield,
West Midlands B75 7RR

[1] Department of Health and Social Security, *HN (Hazard)* 77/19. London, DHSS, 1977.

Hypnosis

SIR,—The letter from Dr H G Kinnell (17 March, p 751) suggests that he has fallen into the common trap of those unwilling to consider the phenomena of the hypnotic state. Hypnosis acts by achieving an altered state of awareness, in which can be produced distortions of emotion, sensation, image, and time.[1] If this is due to "waking suggestion,"[2] be it so. The fact remains that a large body of medical experts throughout the world would confirm the effectiveness of the proper clinical application of hypnotherapy.

Dr Kinnell is correct when he quotes me as saying that the use of hypnosis may on occasion be harmful.[3] But the statement is taken out of context since it referred to "its use by unqualified persons for the purposes of entertainment or by lay therapists." Would anyone dispute the obvious restrictions on the improper use of psychotropic medication?

Nevertheless, hypnosis is not a panacea for all ills and certainly not a panacea for all psychiatric ills. But that it has a definite place in the psychotherapeutic armamentarium as an additional weapon for the treatment of certain neurotic symptoms is beyond doubt. As with other disciplines in psychiatry, it must be used selectively and only by the very experienced.

In 1784 a French Commission of Inquiry concluded that the phenomena could be explained only by the imagination and imitation of the subject. Nearly 200 years later, research has shown the neurophysiology of the hypnotic state to be quite a little more.[4] Today most serious therapists will subscribe to the objectives of the new section of medical and dental hypnosis of the Royal Society of Medicine—namely, to extend the knowledge of the hypnotic state, to investigate further its neurophysiology, and to promote interest in its clinical use.[5]

The implications contained in your leading article on hypnosis in the NHS (7 October, p 978) were fully justified, and the findings of the Psychological Medicine Group Subcommittee of the BMA[6] are worthy of implementation.

D WAXMAN
President, Section of
Medical and Dental Hypnosis,
Royal Society of Medicine

Central Middlesex Hospital,
London NW10 7NS

[1] Waxman, D, *Journal of the Royal Society of Medicine*, 1979, **32**, 168.
[2] Costello, C G, *Psychology for Psychiatrists*, p 121. Oxford, Pergamon, 1966.
[3] Waxman, D, *British Medical Journal*, 1978, **2**, 571.
[4] Wyke, B D, *Proceedings of the Dental and Medical Society for the Study of Hypnosis*, London, 1960.
[5] Royal Society of Medicine, *Regulations of the New Section of Medical and Dental Hypnosis*. London, RSM, 1978.
[6] Subcommittee of the Psychological Medicine Group Committee of the British Medical Association, *British Medical Journal*, 1955, **1**, suppl, appendix X, 190.

Homoeopathic medicine

SIR,—Dr R S Walker (28 April, p 1147), referring to my book *Homoeopathy*, claims that we speak a different language from that of our allopathic colleagues. It is true that every branch of science has its own peculiar jargon, and we are no exception to the rule. But when evaluating our clinical results we are as strictly impartial as are our orthodox counterparts.

His view that we have "little insight into the powers of suggestion" is a mistaken one. We are always aware of the possibility of mental suggestion. But in practice we find that the creatures most sensitive to homoeopathic potencies are animals and infants. Can suggestion achieve immunity to infection? Consider the following incidents.[1]

In the mid-1930s I gave a Schick-positive girl a homoeopathic potency (Diphtherinum 200). Ten days later she was still Schick positive. Two weeks later she was Schick negative, and her follow-up tests remained negative.

In those days I was the appointed MO to the Rochdale Children's Holiday Home in Lytham St Annes. A child in the home developed diphtheria. Dr Litt, the MOH, sent her to hospital, where she died. In the meantime I had given Diphtherinum 200 to every inmate of the home. Another case occurred, and Matron implored me to let her keep the child out of hospital. I temporised by taking a swab and delaying notification. The swab was, as expected, positive; but the throat looked

remarkably clear. Taking a second swab, I notified Dr Litt, who on examination found it difficult to believe that this had been a diphtheritic case. He let the child remain, pending the result of the second swab. It was negative.

Precisely the same train of events occurred in three following cases—first swabs positive, follow-ups negative. Dr Litt, giving permission for the fourth child to remain in the home, remarked, "I suppose Dr Mitchell wants to prove the efficacy of his homoeopathy." Matron agreed, "Yes, I'm sure he does."

G RUTHVEN MITCHELL
Brighton, Sussex BN2 1GB

[1] Mitchell, G R, *British Homoeopathic Journal*, 1957, **46**, 46.

Trichinosis

SIR,—Dr P Bourée and others (21 April, p 1047) do not mention the large outbreak of trichinosis which occurred in England in late 1940 and early 1941, centred on Wolverhampton. This was reported by Sheldon.[1] At least 500 people appeared to have been affected. All had swelling of the eyelids, most had fever and muscular pains, and many had focal central nervous system manifestations. The incidence in women was four times greater than in men. There were no deaths. The source of the infection appeared to be uncooked sausage meat, and Sheldon discovered that a high proportion of working people in the Midlands, especially women, habitually ate sandwiches made with uncooked sausage.

The very day before the *Lancet* containing Sheldon's paper appeared I was baffled by a young man in outpatients with swollen eyes and muscular pains; so I asked a colleague to see him, who was equally baffled. The following morning the colleague threw the *Daily Mirror* across the breakfast table to me and commented, "There's the diagnosis of that boy," for the paper contained an account of Sheldon's article. This was the first and only occasion in my life when reading the *Daily Mirror*—or any other newspaper—enabled me to reach a diagnosis.

JOHN W TODD
Farnham, Surrey GU9 8DR

[1] Sheldon, J H, *Lancet*, 1941, **1**, 203.

SIR,—In the paper on trichinosis (21 April, p 1047) the authors state, with reference to horse meat being incriminated, that "this pathogenetic mechanism is surprising since the horse is strictly herbivorous." I myself have seen horses eating sheep's offal in the Middle East. The source of the horse meat in the reported attack was "from an Eastern country." I also understand that during the 1914-8 war meat was fed to horses in the British cavalry regiments on the Western Front.

G E FFRENCH
Occupational Health Unit,
Central Middlesex Hospital,
London NW10 7NS

Pressure on the tracheal mucosa from cuffed tubes

SIR,—The well-documented fact that it is easier to damage the trachea with small residue endotracheal-tube cuffs than large is reiterated by Drs J M Leigh and J P Maynard (5 May, p 1173). It must be borne in mind, however, that even the Lanz cuff, for example, can result in damage if there is a malfunction of the valve mechanism of the over-pressure safety balloon. Moreover, I do not feel that the authors' data (which relate to their *pressure* measurements in two patients) justify the conclusion that Lanz-type tubes are mandatory in all intensive care units. Other large-residue cuffs can be used safely by monitoring the intracuff pressures. In the case of the sponge-filled cuff (Kamen-Wilkinson) the size of the endotracheal or tracheostomy tube in relation to the size of the trachea is critical. Since this cuff functions like a spring a "large" tube in a "small" trachea results in high lateral pressure on the wall of the trachea.

It has been my observation in clinical practice that when large-residue cuffs are correctly adjusted a gas leak past the cuff will often occur at the peak of inspiration, particularly when high inflation pressures are used. Therein lies their safety. Thus when small residue cuffs are used a tiny audible gas leak past the cuff at a peak inspiratory pressure of not more than 20 mm Hg ensures that the mean pressure bearing on the tracheal wall will not exceed the intratracheal pressure. No attempt to produce a completely airtight seal at this or higher airway pressure should be made. The situation is analogous to that of an infant or child intubated with an uncuffed tube of appropriate size during positive-pressure ventilation. The final "seal" is effected by the mucous cushion secreted by the tracheal mucosa in response to the "foreign body." My clinical observations while using the traditional red rubber tubes in this fashion for many years without causing any significant tracheal damage have been supported by the *histological* findings of a controlled experimental study in dogs.[1] In the operating room setting at least, cuff management seems as important as cuff design.

It seems neither prudent nor practical at present to replace all tubes with small-residue cuffs, including endobronchial tubes presumably, by those with large-residual cuffs of the Lanz type for routine anaesthetic practice. Hard evidence to the contrary would be required before considering such a change and it is lacking.

JOHN HOMI
Anaesthetic Unit,
London Hospital Medical College,
London E1 1BB

[1] Homi, J, *et al*, *British Journal of Anaesthesia*, 1978, **50**, 434.

Remedy for excessive salivation

SIR,—The distressing symptom of drooling (5 May, p 1200), whether due to poor neuromuscular development, as seen in some mentally defective children, or acquired when a patient has sustained a cerebrovascular accident, may be treated with the help of a simple intraoral appliance,[1] similar to a removable orthodontic appliance.

The appliance, called a palatal training appliance, was designed originally to assist in soft-palate rehabilitation[2] as an aid to speech therapy, and consists of a loop of wire extending into the soft palate region. Personal experience gained from treating over 200 patients with palatoglossal incoordination suggests that it also appears to improve oral sensitivity, which is generally reduced in this condition, as well as improving the co-ordination between the tongue, soft palate, and pharynx, which is necessary for a normal swallowing action. The appliance has proved useful for the treatment of patients with drooling problems after a cerebrovascular accident, based on experience of over 100 patients. The normal pattern is for salivation to increase somewhat for a period of about three weeks, but afterwards a rapid improvement occurs. Most patients may have the loop of wire removed after a few weeks, but a few seem to need it for a long while and request to have it replaced. It causes no inconvenience unless normal sensations return.

In the case of children, 45 of whom have been treated for drooling for a variety of reasons, the greatest success has been with the mentally subnormal group, and spastics have been the most difficult. I have not been able to determine which children have a good prognosis with this treatment, but because it is simple and easily reversible little is lost in trying, and some very pleasing results have been obtained.

The palatal training appliance may be constructed by dental surgeons in any branch of the Health Service and will enable the speech therapist to treat these patients more effectively. To try to help patients with poor lip posture, a lip seal reminder[3] has been developed recently by the medical physics group in the physics department of Exeter University, and it appears to be a valuable aid to encourage lip closure. It has been designed to develop a tactile awareness in addition to a reminder, particularly when the patient is concentrating on other things. The device is not triggered by excessive salivation and only when the lips open does it sound the alarm.

W G SELLEY
Dental Department,
Royal Devon and
Exeter Hospital (Heavitree),
Exeter EX1 2ED

[1] Selley, W G, *British Dental Journal*, 1977, **143**, 12.
[2] Tudor, C, and Selley, W G, *British Journal of Disorders of Communication*, 1974, **9**, 117.
[3] Available from Bio Instrumentations Limited, Holmcroft, School Road, Silverton, Exeter, Devon.

Heat stroke or hypothermia?

SIR,—I thank Dr T J Bassler (20 January, p 197) for his comments on our work related to heat stroke and distance running.[1-3] His points regarding the inaccuracies in reports of causes of death from ischaemic heart disease instead of heat stroke in distance running events are well taken.

Perhaps the most inaccurate and paradoxical report, to my knowledge, was when cases of death due to hypothermia were attributed to hyperthermia. In a report entitled "Jogging in Tasmania"[4] the author noted the death from "heat stroke" of a young man jogging in the streets of Massachusetts on a hot, humid, and polluted day. He compared this with two deaths in the "Go as You Please" race from Hobart to Mount Wellington in Tasmania in 1912, implying that the cause of death was again heat stroke, unusual in the temperate climate of Tasmania. When I reviewed these reports, I found that three people had died on Mount Wellington, two in 1903 and a third in 1970. However, conditions were unlike the hot, humid summer's day in Massachusetts, for these races were conducted in the northern hemisphere's summer but the southern hemisphere's winter,